

## Secondary and Tertiary Education in the Nordic countries — a background and introduction to policies

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This article is a summary of a presentation given at the Center for European Studies at Nanzan University on November 21, 2018. The article aims at giving a brief introduction to the main features and policies in the education systems in the Nordic countries, with a special focus on Sweden. And finally, the article discusses the performance of the Nordic countries in the PISA<sup>1</sup> assessment.

The Nordic region is, in an international context, a quite homogeneous region with many common features. This goes also for the education sector. The Nordic region, consisting of five independent countries and three autonomous regions,<sup>2</sup> is, according to the Nordic Council of Ministers “the most integrated region in the world”.<sup>3</sup> The Nordic countries have many common features, with similar political and cultural formal structures, and trends. The region had a common labour market long before the EU. The Nordic region also had an agreement on mutual recognition of academic exams before this became a European goal.

One reason for this is the historic bonds: Sweden and what today is Finland were united for hundreds of years, as were Denmark and Norway; Iceland was under Danish rule, and Sweden and Norway were finally in a union during the nineteenth century. Societies and cultures lay on common ground, which has implications on almost all fields of society, including education.

In this article Sweden will be used as main example and point of reference, but with references to and comparisons with the other Nordic countries, and where applicable, the Nordic region as a whole. And particularly for the discussion on PISA,

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1 Programme for International Student Assessment <http://www.oecd.org/pisa/>

2 Nordic countries: Finland, Sweden, Norway, Denmark, Iceland. Autonomous regions: Greenland, Faroe Islands, Åland

3 <https://www.norden.org/en>

with references to Finland and Estonia.<sup>4</sup>

Compared to Japan, the Nordic countries are sparsely populated. Norway, Sweden and Finland all have comparatively small populations but spread over large areas. This has effects also on the educational landscape. In several of the Nordic countries there are continuous discussions about the number of higher education institutions. Regional accessibility, aiming at promoting also a socio-economically widening access to higher education, versus the academic advantage of larger research environments, has been a focus in the discussion on development of the higher education sector. Norway and Denmark have recently seen substantial merging of higher education institutions. In Norway the traditional division between universities and university colleges has been changed as universities and university colleges have merged, with the result of fewer but bigger institutions. In contrast, Sweden, with a population of around ten million, has 48 higher education institutions, spread over different regions in the country.

### Some general features of Nordic education systems and policies

Some of the key concepts in education, common for all Nordic countries, are equity and lifelong learning. The school system aims at pupils developing knowledge as well as values, with a strong focus on active citizenship. Common main features are:

- Equity: A fundamental principle of the education systems is that all children must have access to equivalent education, regardless of gender, place of residence and social and financial background.
- Lifelong learning: All the Nordic countries have a long and strong tradition of a comprehensive system of adult education, consisting of both formal municipal adult education and liberal adult education (*folkbildning*), free of charge. There are few dead ends in the education systems; they generally allow students to move between different strands and levels.
- Individual responsibility: A strong focus on the individual responsibility of the student is emphasized throughout the whole educational path. Pupils are given influence over their education, e.g. by taking part in developing local curri-

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4 Estonia is a Baltic country and not a full member of the political Nordic cooperation

cula, and influencing methods used in the teaching and learning process. The means by which pupils exercise influence is related to their age and maturity.

- Critical thinking: There is also a strong focus on critical thinking at all levels of education. In addition to being given the opportunity to develop their ability to use digital technology, all pupils should be given the opportunity to develop a critical, responsible attitude towards digital technology, so that they can see opportunities and understand risks, and be able to evaluate information.

The school should furthermore contribute to students developing their ability to critically examine gender patterns and how they can restrict people's life choices and living conditions.

The task of the education system is to give the student knowledge capital as well as training for a democratic society. The ways to accomplish this is through a focus on learning outcomes, student centered learning, and student participation.

In Sweden, higher education institutions have the task from the government to promote student influence over their education. A concrete example of student participation is a case from Uppsala University in 2016. The Students' Union at Uppsala University filed a complaint to the Swedish Higher Education Authority (responsible government agency) against the University. The union claimed that the University had not complied with regulations concerning student representation in revising a course curriculum. The Swedish Higher Education Authority found that the University had not complied with the regulations. The law stipulates that higher education institutions shall ensure that students take active part in further development of the education, and quality development is a joint responsibility for staff and students (Higher Education Ordinance).<sup>5</sup>

## Higher education in the Nordic region

The higher education systems in the Nordic countries are adjusted to the Bologna process,<sup>6</sup> with implications for structures as well as content. The Bologna pro-

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5 <http://www.uka.se/download/18.7f89790216483fb8558efb5/1536743622100/tillsynsbeslut-2018-09-06-studentinflytande-beredning-av-kursplan-uppsala-universitet.pdf>

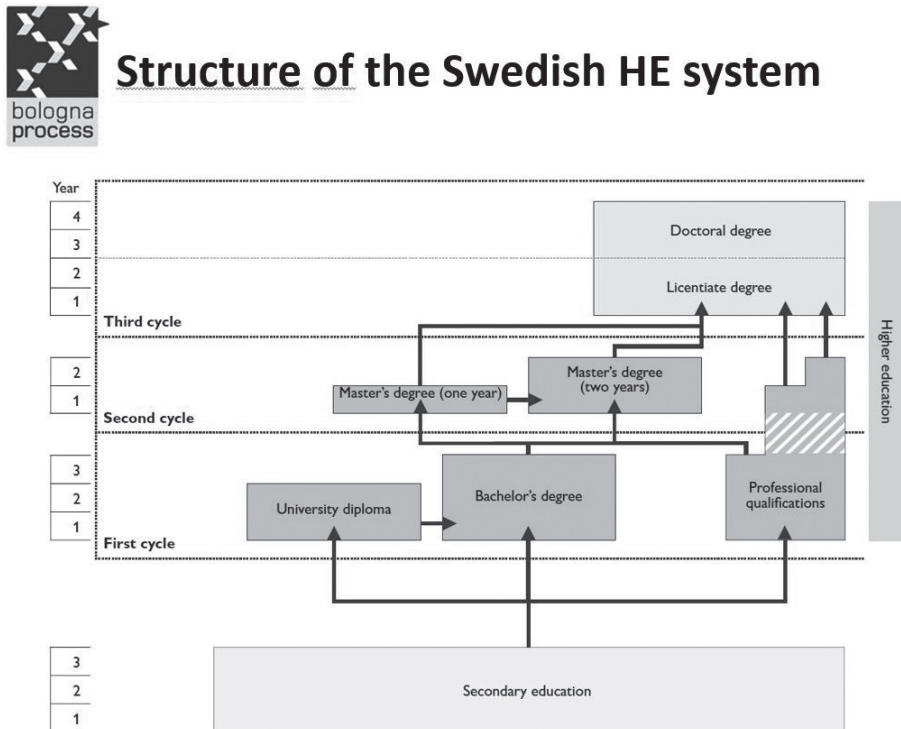
6 <http://www.ehea.info/pid34247/how-does-the-bologna-process-work.html>

cess is thus part of the background for Nordic higher education policies today. The goals for education are expressed as learning outcomes, that is knowledge, skills and attitudes that students should get, or more precisely, what a student needs to know, understand, and be able to do at the end of the learning process.

So how is higher education defined? Definitions differ between countries and systems even within the Nordic region, which makes comparisons more difficult. In Sweden, the definition is that higher education is post secondary education regulated in the Higher Education Act. Most post secondary education in Sweden is higher education, as teacher training, including teacher training programmes for early childhood education and care ("kindergarten"), and nursing. Sweden does not have a system with apprenticeships, as in some other European countries, e.g. Germany.

Admission to higher education is a current policy issue: who gets into higher education and how? Sweden has a centralized and more uniform system of admission

Figure 1: Structure of the Swedish higher education system



Source: Swedish Council for Higher Education

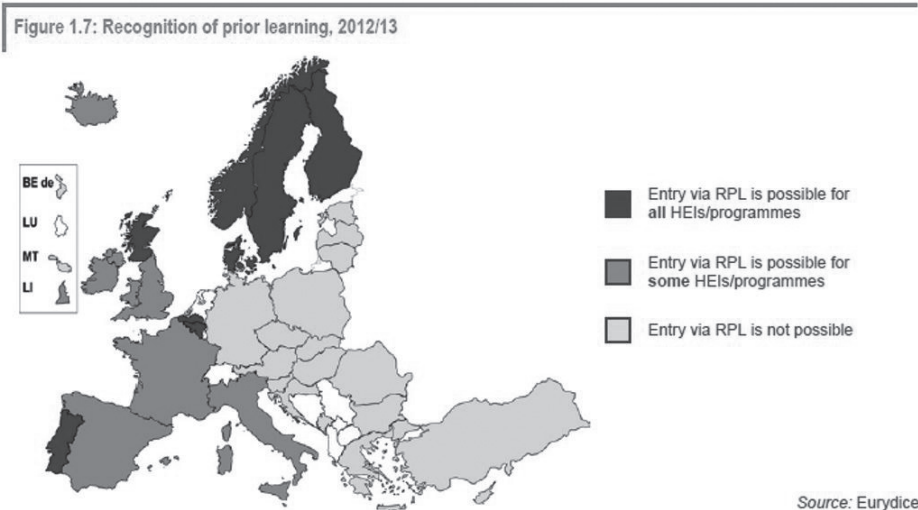
to higher education than many other countries. The main structure is that there are no general or specific admission tests. The general entry requirements apply to all courses and programs in higher education.

In the Nordic region, entry to higher education via recognition of prior learning (RPL) is possible for all higher education programmes.<sup>7</sup> In Sweden, regulations on admittance based on RPL have been in place for many years. However, entry based on RPL has not been a wide spread practice, and there is now a government initiative to develop joint methods and structures for RPL.<sup>8</sup>

Sweden is the European country that during the last decade has received the highest number of refugees per capita; in 2015 Sweden received over 160 000 refugees. The majority were from Syria, and approximately half of them were minors. The high number of newly arrived migrants has been a challenge for the whole education sector, and recognition of foreign qualifications has become an increas-

Figure 2: Entry routes to higher education in Europe

## Entry routes to Higher ed.



Eurydice, *Modernisation of Higher Education in Europe*, 2014

Source: Eurydice

<sup>7</sup> In Iceland for some but not all programmes.

<sup>8</sup> <https://www.uhr.se/om-uhr/detta-gor-uhr/uppdrag/reell-kompetens/>

ingly important task.

Education in the whole Nordic region is predominantly publicly funded. In Sweden, higher education is the fifth largest budget post in the state finance. A comparatively small share of financing comes from private funding.

In Sweden, student support (grants + loans) is available until the age of 56.

There are no tax benefits for parents or family allowances, students are considered adults with their own economy.

In all the Nordic countries, the average age of university students is comparatively high. In Sweden, the structure of higher education, with programs and free-standing courses makes it possible to study e.g. a single course, part time, parallel with having a job. It is also quite common to take courses without aiming at an exam or diploma. Higher education courses are seen as competence building, for the labour market or for pure interest.

Other opportunities for competence building for adults are offered through adult education. Sweden has established a legal entitlement to basic adult education for all Swedish residents who are at least twenty years old and have not completed lower secondary education (compulsory ed). Consequently, the legal framework obliges municipalities to ensure sufficient provision to meet learners' demands and needs. Adult education and lifelong learning is a trade mark in all the Nordic countries, with folk high schools and study associations offering academic courses as well as courses for leisure.

Figure 3: Financing of higher education at student level

## Grants, loans and price of study in the Nordic countries

	Price of higher education	Grants available for all	Size of the grant (EUR/yr)	Study loans available for all	Size of the loan (EUR/yr)	Total (grant + loan/yr)
Norway	free	yes	max 4 581	yes	max 11 450 (grant + loan)	11 450
Iceland	592 - 6 288 EUR/yr	no grants	0	yes	13 000	13 000
Sweden	free	yes	2 995	yes	7 500	10 495
Denmark	free	yes	1 507 - 9 703	yes	4 100	5 607 - 13 803
Finland	free	yes	2 253	yes	6 500	8 753

Source: Eurydice – National Fee and Support Systems in European Higher Education 2017/2018

When it comes to gender, the number of female students, as in rest of Europe, are increasing also in Nordic universities. The share of women is also increasing in traditionally male dominated fields as in technical programmes. Law is now a field with a female majority at Swedish universities. However, there is still a traditional gender bias in Swedish universities. At Bachelor's and Master's level the majority of teachers are female (60 percent), whereas at Doctoral level men are overrepresented. One consequence of this is an ongoing political discussion on gender quotation for positions at higher education institutions.

### Internationalisation in higher education

Internationalisation of higher education is a political priority in the Nordic countries, and there are several recent government initiatives to promote international cooperation and exchange. Quality development in education is the first and foremost argument for internationalisation. Other rationals are access to international expertise, economic effects, and students' academic and personal development. Iceland has always to a great extent relied on international cooperation, being a small country with a population of some 330 000 inhabitants, and thus not having had resources to offer all educational paths.

The Nordic countries have a tradition of education, including higher education, being free of charge. During the last decade however, tuition fees have been introduced for so called international students, meaning students from outside the European Union. Norway is at present the only Nordic country without tuition fees for international students.<sup>9</sup>

When tuition fees were introduced in Sweden in 2011,<sup>10</sup> the number of incoming students from outside Europe declined with some 70 percent. Student exchange through exchange programmes or bilateral agreements is not affected by the introduction of tuition fees. Figures for student exchange between Sweden and Japan show an imbalance. In the academic year 2015/2016, 931 Swedish students studied

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9 Iceland has tuition fees also for domestic students.

10 The fee should cover the whole cost of the education (normally between SEK 80 000/ 1 million Yen–SEK 150 000/ 1,9 million Yen per year).

in Japan, which is an increase from 100 to almost 1000 students in twenty years, whereas 113 Japanese students studied in Sweden (2016/2017).<sup>11</sup>

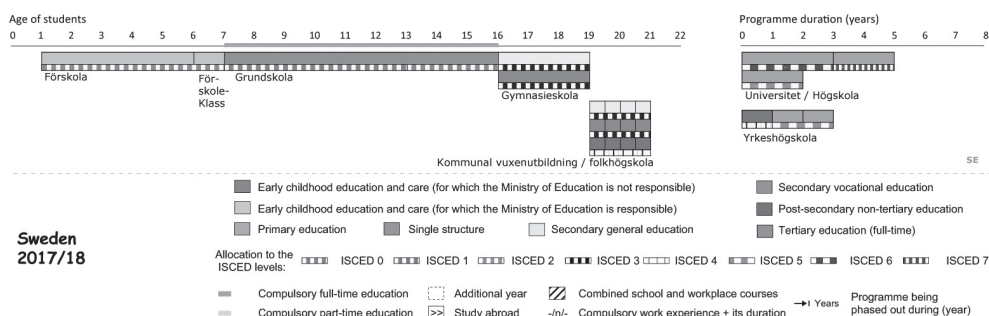
A debated aspect of internationalisation is the use of the English language. There is an increasing number of study programmes and courses, especially at Master's level, delivered in English at Nordic universities. All the Nordic languages being small languages, there is a fear that the Scandinavian languages and Finnish successively will be reduced as academic languages.<sup>12</sup>

### PISA, Nordic lessons?

The Nordic region, or more precisely, Finland and Estonia, have received international attention for their performance in the PISA tests. Before looking at PISA results, and potential explanations behind, we however need to establish some basic facts about the structure of secondary education in the Northern countries.

Figure 4 illustrates the structure of the education system in Sweden. Notable here is that upper secondary education, “high school”, normally starts at the age of sixteen. This is the case in all Nordic countries, which means that the PISA assessment, which is carried out with pupils age fifteen, in all Nordic countries is carried out at lower secondary level, during the last year of compulsory education. At lower secondary level there is no tracking or streaming of pupils, and all children attend the same school and class. In many other countries fifteen year old students

Figure 4: Structure of Swedish education system



Source: Eurydice

11 [www.scb.se](http://www.scb.se)

12 Finnish is not a Scandinavian (Germanic) language but a Finno-Ugric language



attend upper secondary school and there has already been a selection of pupils (tracking).

As shown in figure 5, for PISA results, all Nordic countries (except Iceland), are above the OECD average. Finland has clearly the best results of the Nordic countries, and is also one of the top performers in the OECD. However, Japan scores higher than Finland in both Science and Mathematics.

One aspect of interest could be comparing the amount of time spent in school; does more time spent in school and with school work result in better academic performance? Since the best performing countries in the Nordic region, Estonia and Finland, have less annual school days than the European average, this does not seem to be an adequate explanation for academic success.

Also other schemes on annual instruction time verify that more time invested in school does not automatically result in better performance. Pupils in compulsory education in Finland and Estonia get less instruction time than the EU and OECD average, yet both countries perform far above average. Moreover, private tutoring after school is not common practice in any of the Nordic countries.

Estonia is, and is not, considered part of the Nordic region; Estonia does anyhow

Figure 5: PISA results 2015 in the Nordic countries and Japan

<b>PISA results Sweden/Japan/Nordic countries</b>			
			OECD Average
			Mean score: Science
			Mean score: Reading
			Mean score: Mathematics
			493
			493
			490
<b>PISA results Sweden</b>			
Mean score: Science	Mean score: Reading	Mean score: Mathematics	
493	500	494	
<b>PISA results Japan</b>			
Mean score: Science	Mean score: Reading	Mean score: Mathematics	
538	516	532	
<b>PISA results Nordic countries</b>			
	Mean score: Science	Mean score: Reading	Mean score: Mathematics
Finland	531	526	511
Denmark	502	500	511
Norway	498	513	502
Iceland	473	482	488

Source: <https://www.oecd.org/pisa/PISA-2015-Sweden.pdf>

Figure 6: School days per year in the Nordic countries (including Estonia)

Total amount of school days per year	
<u>Denmark</u>	200
<u>Estonia</u>	<u>not less than 175</u>
<u>Finland</u>	190
<u>Iceland</u>	180
<u>Norway</u>	190 – municipality/county issues regulations on school days & holidays
<u>Sweden</u>	at least 178 – exact dates vary on regional & municipal level

Source: Eurydice, Recommended Annual Instruction Time in Full-time Compulsory Education in Europe – 2017/18

take an active part in Nordic cooperation in the field of education. Estonia has in recent PISA assessments performed even above Finland, though perhaps not gotten the same international attention. There are, however, joint features between the education systems in Estonia and Finland. Education is highly valued in society, today as well as historically. Parents place quite high demands on their children and on the school. There is almost universal access to quality early education. In Estonia, over 90 percent of children attend pre-school education. Schools must provide the best learning environment for everyone regardless of the students' socio economic background. All children get free text books and school lunch. Access to extra-curricular activities is normally free of charge. Schools have to support students with speech therapists, social pedagogues and psychologists if needed. They have to make it possible for students to get additional instruction on individual level. Grade repetition is an exception, students have to get help in order to move on.

Both Estonian and Finnish schools have a far reaching local autonomy; national curriculum dictates results to achieve, but approaches to achieve results are the

responsibility of schools and teachers. According to the Estonian Ministry of Education, a “possible reason” for Estonia’s performance in PISA is the autonomy of schools.<sup>13</sup>

As one explanation for Finland’s high performance in PISA, researchers have pointed at the role of the teachers (e.g. Pasi Sahlberg in *Finnish lessons 2.0*, 2014). Teachers’ professionalism is highly valued in society and in the labour market. Teacher education is research-based and teachers have a master’s degree. All teachers are eligible for doctoral studies. Teachers are responsible for curriculum planning, student assessment, and school development at local level. In Finnish schools, there is an absence of standardized teaching, test-based accountability and competition among schools over enrollment. The teaching profession attracts top students; ten percent of applicants to primary teacher education were admitted in 2018. 91 percent of Finnish teachers report that they are satisfied with their jobs (TALIS 2013, OECD survey).

Besides performance in Mathematics, Science and Reading, each PISA cycle explores a distinct “innovative domain” such as collaborative problem solving (PISA 2015). Modern societies require people to collaborate with one another. PISA 2015 assessed for the first time how well students work together as a group, as well as

Figure 7: PISA Innovation domain, the Nordic countries and Japan

### PISA 2015 Innovation domain: collaborative problem solving

Sweden’s scored (510 points) in the PISA 2015 domain collaborative problem. Sweden results are above the OECD average on the PISA collaborative problem-solving scale.

Collaborative problem solving results Sweden		Collaborative problem solving results Nordic countries		OECD Average
Mean score		Mean score		Mean score
510		Finland	534	500
		Denmark	520	
		Norway	502	
		Iceland	499	
Collaborative problem solving results Japan				
Mean score				
552				

Source: <https://www.oecd.org/pisa/PISA-2015>

13 [www.innove.ee/pisa](http://www.innove.ee/pisa)

their attitudes towards collaboration. What is measured here is how students can contribute to a collaborative effort to solve a problem.

All Nordic countries except Iceland are above OECD average. But again, Japan scores even higher.

So, finally, let's look at one more comparative assessment, an annual European assessment of research and innovation performance.<sup>14</sup> Based on their average performance scores for a number of indicators, the countries fall into four different performance groups. The performance groups are relative performance groups, depending on their performance relative to that of the EU. High performing countries have a balanced innovation system, with public and private investment in education, research and skills development, effective partnerships between companies and academia, a strong digital infrastructure, and new-to market product and high-tech product exports.

The Nordic countries are either classified as innovation leaders or strong innovators. Sweden is at first place and the EU innovation leader in the 2018 European Innovation Scoreboard, Denmark is at second place and Finland at third.

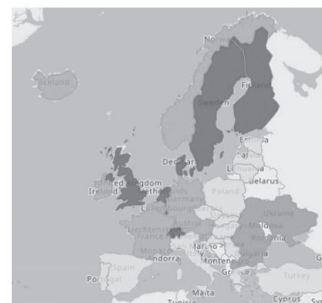
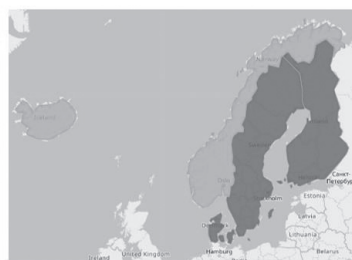
Figure 8: The European Innovation Scoreboard 2018

### EUROPEAN INNOVATION SCOREBOARD

- Innovation Leaders (a score more than 20% above the EU average)
- Strong Innovators (a score between 90-120% of the EU average)
- Moderate Innovators (a score between 50-90% of the EU average)
- Modest Innovators (a score below 50% of the EU average)

EU+ certain Non-EU countries included

Nordic countries



Source:

14 <https://ec.europa.eu/docsroom/documents/30281>

How can we explain the positions of Sweden and other Nordic countries in the innovation scoreboard? According to the European Commission, innovation is not only related to education and research systems, but also to cultural framework, policies and regulations, investments, and to international mobility and knowledge flows.

The joint OECD-Eurostat framework for indicators measuring entrepreneurship specifies ‘culture’ as comprising ‘risk attitude in society’, ‘attitudes towards entrepreneurs’, ‘desire for business ownership’, and ‘entrepreneurship education’.<sup>15</sup> Entrepreneurship education in schools is a political priority in the Nordic region as a whole.

Trust, as a component of social capital, is connected to innovation – low trust negatively influences it. People in the Nordic countries generally express high level of trust both in fellow citizens and in political and governmental structures and institutions, according to several surveys.<sup>16</sup>

Some debaters have raised the question: Do education systems in the Nordic countries foster entrepreneurship and an innovative culture, by e.g. not focusing on assessment and frequent testing? Are internationally well known Nordic innovations, like IKEA, Spotify, or Linux, a result of education cultures, or have they perhaps developed in spite of education ... ?

Nordic countries, except for Finland (and Estonia), do not score particularly high in PISA. Still, especially Sweden and Denmark score high for innovation. Could potential explanatory factors for the Nordic context be:

- a non-hierarchical society, which promotes own initiative
- focus on responsibility for the individual
- training in critical thinking, throughout education?

There are however surely other, and different, success factors, and the assumed factors for the Nordic countries might not be relevant for other cultural contexts and countries. There are many different ways to achieve good results, and with Japan’s high achievements in both PISA and innovation, perhaps we should rephrase the question and look at what the Nordic region can learn from Japan.

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15 <https://ec.europa.eu/eurostat/web/structural-business-statistics/entrepreneurship/indicators>

16 E.g. <https://www.europeansocialsurvey.org/>